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ABSTRACT

Changes in instructional methods and ideologies depend on simultaneous changes in the physical environment for the practice of those methods. School architecture results from the type of activity dictated by educational theories. One of the principal ideologies of education is socialization, which perceives education as a process of preparing students to fulfill societal roles. The ideal design for buildings reflecting this bureaucratic conception would resemble an industrial factory complete with an assembly line. A second major ideology is acculturation, which asserts that the purpose of education is to inspire students with a sense of culture and traditional values. The exterior architecture for schools supporting this conviction would show a reverence for the past; for example, an elite school might look like a Greek temple. However, this architecture would not penetrate to the classroom. According to a third ideology, individuation, education is intended to serve the intrinsic needs of individual students. The open space architecture and activity centers of open schools reflect the individuation ideology. (RG)

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The Architecture of Schools and the Philosophy of Education

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A short story will illustrate the dynamics of change in the history of the architecture (in its broad sense, both internal and external) of school. This is the story of the change school furniture has undergone and the link between this change and the changes that followed in its wake in the patterns of activity which prevailed in school.

A pattern of furniture which prevailed in school classrooms of the countries of Western culture took shape through many generations. The basic accessory of this furniture, which lasted through these generations, consisted of a double-desk and a double-bench called a "school-desk." The school desk is an ancient accessory. Its like has already been discovered in archeological excavations dating back to very ancient times. The difference between the ancient school desks discovered in these excavations and the ones used in schools for many generations, and which were still in use a few decades ago, was merely the material of which they were made. The most ancient school desks were obviously made of stone. With time, wood replaced stone. However the wooden school desks were also very heavy. For centuries a classroom was depicted as a space of warp-and woof rows of school desks stuck to the floor because of their weight.

A few decades ago, under the influence of new educational ideologies which then appeared, the status of heavy furniture was impaired. Several educationists, most of them those who had initiated the progressive movement in education, suggested the idea of light furniture, listing its advantages; light furniture may be arranged to meet the changing needs of teaching; even the youngest pupils can do that almost effortlessly. Such furniture may be arranged in a circle for the pupils to hear the teacher's story; it may be used to form a stage made of desks, while the audience is seated on the chairs, which are not longer attached to the desks. Then again, the desks may be

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stood around the walls, with the pupils engaged, respectively, each in his own studies, etc. This idea was very soon adopted. On what grounds? At that time, the beginning of this century, men of new ideas stormed school. Their ideas aroused the sympathy of some circles; while others, the conservative, whose views directed the authorities' actions, opposed the new trend. The clash between those who inclined towards reforms and those who defended prevailing views was exacerbated with the former pressing forward and with the latter deeper entrenched in their defence positions. A clear ideological decision was not as yet possible. The "Progressive," as the innovators were called, sought to change everything: The organization of school (on the agenda were controversial subjects like a uniform school for all, a co-educational school, etc.), the curriculum, the style of relations between teachers and pupils, teaching methods. The conservatives sought to leave everything as it was. In such circumstances the change of furniture served as a means of temporary appeasement. The conservatives who agreed to change the furniture, as proposed by the progressive, saw this as a mere technicality, without any educational significance, and which would not entail a change in school principles or aims. They were soon to realize their error. But this would come, from their point of view, too late.

Light furniture, which even first graders could move around, was adopted without any surmise that its appearance heralded a revolution; this was to break out in the ways school operated. If we are to judge from the aims of those who contributed towards the change of the style of furniture, this, in reality, was not meant to be a revolution. On the contrary, this was a compromise between two hawkish camps, each one of whom considered it an insignificant event in the history of schools. Except that then something happened that which - probably - no one had intended: it was soon discovered that light furniture could serve as a weapon in the hands (and more especially - the legs) of the pupils; they could wield it against their teachers and defend themselves against school. How then was this a weapon? At that time it was

still customary in most schools that pupils would rise to their feet both when their teachers entered and when they left the classroom. As long as the furniture was heavy, all the pupils could do was to stand erect in the narrow space between bench and desk, and remain so on their feet until the teacher allowed them to sink back into their seats. Now, when they had light furniture, everything changed. They could move the chairs behind them and the desks in front of them, thus making an ear-splitting noise. When all together, wielded this weapon, it was impossible to punish everybody; when an individual had recourse to it, even then it was impossible to decide whether it was done with malicious intent or was a simple hitch. The furniture was so light that any awkward move might cause its displacement and the strident noise that accompanied such displacement. School disliked (and goes on doing so) pupils armed against it. School therefore had no choice but to revoke the custom of rising in honour of the teacher. This, indeed, is what most schools did when they made light furniture prevalent; though their teachers, principals, sponsors and inspectors were conservative people, according to whose opinion pupils ought to show respect for their teachers by rising on their feet. The revocation of the custom of rising to one's feet was contrary to their 'Weltanschauung', except that they could no longer maintain the custom of rising to the teachers' honour; under the new conditions standing up was bound to an overt act of disrespect. The revocation of the ceremonial pattern of behaviour involved in standing up, which symbolizes the respect of authority, furthered the aims of educational circles, those known as progressive; the latter demanded the revocation, or at least the limitation of the authoritative style of relations. This style prevailed in schools in those days, and the pupils' standing up in honour of their teachers was one of its expressions. Changing the furniture contributed to a partial furthering of the aim to reduce the extent of authority in school.

This story has a sequel. Light furniture enabled indeed, as its initiator claimed, to vary the educational activities of school. The new activities put an end to the exclusiveness of the 'lesson,' i.e., the unique-

ness of a situation in which the teacher stands in front of his class, speaks to it, questions and answers. As of now there appeared activities in which the teacher was to act differently too. All the new activities had one thing in common — the further impairment of the teacher's authoritative status. When his status of autocrat declined, the number of his pupils had to be reduced. In a classroom where the children are no longer "packed" in heavy benches, which do not allow them to move freely, their number cannot be so big as in classrooms in which the principal activity consists of listening to the "lesson."

Varying activities, reducing the number of pupils and further changes which light furniture brought in its wake (and whose justification derived from new educational theories which saw light at the time), continued undermining the foundations of the old school. If, today, there are schools in which the main piece of furniture in them is the carpet on which children lie while reading books, watch TV (which stands on the floor), play games with each other, etc. and if it is now difficult to determine, in these schools, the boundaries of classes, and where the child has become master of his space and time, namely that the child and not his teacher decides when and where he does it, the traces of this momentous transformation may be discovered in the artless step which its actors imagined to be of little significance: the exchange of heavy for light furniture. I shall not go into the details of all the stages of this change and their contents; I shall only assert that a lasting and significant change in the functioning of school is subject to the change in the physical conditions within which school operates. Without the removal of heavy furniture from classrooms, teaching methods would not have changed; just as later on the experiment of running an open school would not have begun (and which has not emerged, yet, from the experimental stage) had the partitions separating classes not been removed.

Let me once more word this claim more incisively. <u>When an educational change is not accompanied by some measure of change in the organization of the physical environment (i.e., a change in the architecture in its wider sense)</u>

then the desired educational change is no real change. The exchange of certain contents of the syllabus for others is no real change. The change of teaching methods is real; but this is conditional to this change's being based on a simultaneous change of the frameworks within which the new methods are to be put into practice. Only old methods (or those in which the new is only apparent) can succeed in old frameworks.

What has been said so far about the link between architecture and the philosophy of education applied only to the formal aspect of education. Can something be said about this subject which is a generalization that touches the contents that bridge between school architecture and theories of education? Or alternatively: Can architectural expressions, entailed (in advance) by the various philosophies of education prevalent in society and among teachers, be identified? My answer to this question is affirmative. The bridge between th methods, the theories, the outlook etc., included in what is called "philosophies of education" and the architecture of school(s) is the kind of activity recommended by these methods and theories and which is (supposed) to be carried out in that (particular) school. "Philosophies of education" are (very) numerous. But the number of kinds of activity carried out according to the guidelines of these philosophies is rather restricted. Each kind of educational activity has earned, through the generations, different sorts of justification. These justifications are frequently called "Theories of Education." Theories of education, i.e., attempts at the vindication of certain styles of activity in education, even when they derive from different and conflicting assumptions and when they are directed at different and contradictory aims, often call for the very same style of action. The architecture of a school is not the outcome of philosophical theories which justify a specific theory; it is, rather, the outcome of the kind of activity that is to be carried out in school.

The manners of action may be classified as three groups. Let us call then from now on major ideologies of education. Those of you who are adepts in the jargon of the social sciences will realize that, by changing the name I have lowered the rank of educational thought; ideologies are something less notable than philosophies. But you will have to forgive me if I do not try here to justify this step.

The first among the major ideologies of education is that of socialization. In this conception, education is understood to be the process of training the young to fulfill roles which society intends to impose upon them. The human (in this conception) appears as a cluster of roles. Since no human is born with the knowledge of how to carry out roles in society — and since without such knowledge — according to this conception — no ~~child of woman born~~ individual is worthy of the name of human, education (i.e., socialization) is the process imparting behavioural patterns corresponding to the needs of the various social institutions. This conception of education is clearly relativistic. Human societies are not identical nor are the roles which education is to impart unto the young in different societies. It thus follows that each society possesses the education which it needs.

This conception of education blends also with the one prevailing in other fields of activity in modern society: This conception in the bureaucratic one. According to the latter (in the sense given to it by Max Weber), education is an efficient and rational action when it is organized in a way which echoes the organization of a factory, of an army or a hospital, all of which are bureaucratic organizations. The rationale which guides this approach entails, first of all, that all the children be assembled - all together - in specially appointed places, where they disturb no one, and where no one disturbs them. These places are termed schools. The children at school are supposed to undergo a process in which they gradually, lesson after lesson, term after term, year after year, become acquainted with their future roles (including their sundry components) and they practice carrying them out. This

rationale prescribes that school should adopt the assembly line system prevalent in the factory. At each one of the stations along this assembly line one of the bolts of education is locked; one of the educational parts is fitted; one of the sides is sprayed with the values prescribed by the school curricula. At the end of the assembly line, the finished product reaches the quality control point: diplomas and grades, certificates and marks.

Which architecture befits this conception? The ideal school, built so as to meet the requirements of education - conceived as an assembly line - will have this appearance: First of all, it will be a big school (~~i.e.~~, for the sake of economy of administrative expenses, diversification of services, etc.). The building of such a school will house all the classes of one grade (forms ONE, forms TWO, etc.). Each floor will also house the offices of the grade co-ordinator. It is desirable that the different grades occupy floors according to the following order: the lowest floor reserved for grade 1, the top floor to house the upper grades of school. It is advisable that this sequence be interrupted by a medial-floor, occupied by the school principal. His offices should be positioned so that a full view of the school grounds may be had through the windows. The school assembly hall, and possibly such special activity rooms as handicrafts, natural sciences, etc., might also be located on this floor.

This structural principle may also be achieved by deploying the various floors on a plot of ground, in a manner whereby each grade of classes would be lodged in its own pavilion and the latter would be situated either around or next to the offices of the headmaster, the administration and the assembly hall. Every educational institution guided by the ideology of socialization which is not built according to this model, is built differently because of the inability of those who erected this institution; a scarcity of children, an already existing building and other similar reasons might be the cause for such a state of affairs. The votaries of socialization will resign themselves to a building

differing from that which has been described only for lack of a different choice. Principals and teachers who are votaries of socialization, who are working in a structure which has not been built according to the principles outlined, will yearn for a building resembling the one we have described. In the collection of posters at the Israel Museum, Jerusalem, you may see a Bauhaus poster announcing an exhibition of school building plans and designs. The structure which apparently best represents the ideal school in this poster might, as well, stand for the ideal factory; this is both a rational and a functional building, appropriate to the conception of an educational assembly line.

The second major ideology of education is that of acculturation. Its votaries believe that the role of education is to impose upon the spirit of pupils the yoke of culture. The culture which they seek to impose upon the spirits of their pupils appears to them as the attestation of the absolute. In the light of the absolute, which they serve, they conceive of efficiency and the training roles towards life in the prevailing society, i.e., socialization, as concepts which equate education with training, or even domestication or taming. Education as interpreted by acculturation acts as the emissary of the human values revealed to humans throughout history. The good teacher is he who succeeds in inducing his pupils to identify with him and thus identify with the contents of education, which are different aspects of culture. The proof that education has been successful is the pupils' disposition to shape their lives in accord with the imperatives of the values that school has imparted unto them. The previous major ideology, socialization, belongs to the present. The major ideology of acculturation is linked to the past: the attitude of education to the past is that which determines the survival of culture; this is the opinion held by the votaries of acculturation. Both of these — the esteem for the past and for education itself — are to be seen in the exterior architecture of buildings of educational institutions erected in the spirit of this conception. These buildings must be "important,"

"imposing," "serious," "massive." If they are to house a religious school (religious education reflects one of the types of acculturation), its founders will want it to resemble a house of prayer; if it is to be a school for the elite (which is another type of acculturation), its founders will, most probably, seek to endow it with the appearance of a Greek temple. (In the U.S.A., architects used the pseudo-Greek style to emphasize the importance of banks, in particular. In Israel, the founders of a school to express the importance of education in a different way: in certain instances by situating the school in the centre of the ; in other cases, by the rise of the building or by the ceramic tiles stuck to its front.)

The interior architecture of such a school derives from its other characteristics. Since the principles according to which such a school functions entail the study of exemplary texts (in all fields of knowledge), with the pupils identifying with both their teachers and the cultural values, there is but slight concern, here, for order and organization. Such a school consists of classes arranged according to a dove-cote principle: cabins in each one of which similar things are supposed to be taking place; in all of these the teacher is bound to have his best pupils identify with the values of culture by revealing it to them in its most sublime manifestations. The exterior appearance, which testifies to the intimate bond between the institution and the past, and the extreme value which the former ascribes to education, may sometimes even penetrate the corridors of such a school, but it stops on the threshold of the classrooms. Here the exterior seems to lose its significance, emphasis is laid on that which is innermost — learning itself. Since the value of that which is learnt in such a school is considered to be , there is no great difference — nor can such a difference exist — between a young class and an elder one, and little importance attaches to the location in the building or to any ornament in it. That which has been said about any departure from the ideal model of a school guided by the socialization ideology holds true here: Not all schools that are guided by the acculturation ideology

look like a place of worship or a Greek temple, but their teachers would long that they might.

The great majority of educational institutions are nowadays guided by the two major ideologies presented above and the architectural motifs of both are to be found, as a medley, in them. As far as appearance goes, the buildings of these schools look, alternately, as "rational" industrial complexes, houses of prayer or as what Plato's academy is believed to have looked like. The interior design, on the other hand, stems from the principles which guided either the assembly line spaces or the dove-cote ones.

The third, and last, major ideology which has become popular in current educational ideas is that of individuation. This ideology is, for the time being, in search of its identity and its style. It differs from the two preceding conceptions, first in that according to it education is not an action meant to impose something derived from "outside" (such as social roles — as socialisation — would have them, or cultural values, as acculturation intends); individuation is a process supporting happenings whose seat is within the pupil's personality. These happenings lead the child to interact with social norms and the values of culture. But the aim of education, as perceived by the individuation approach, is solely the change in human development according to the progression, the intensity and the choice dictated by the intrinsic needs of that human. Through this conception, education has ceased to be something reminiscent of what it was throughout history.

Hence, any building erected so as to serve education of this kind is completely different from what was prevalent in the past in the architecture of schools. Since the first institution, called school, came into the world (this happened some 5000-6000 years ago), it is doubtful that it has undergone any far-reaching change which might compare with that which took place when the first schools, guided by the major ideology of individuation, came into being. These schools were attributed the name of "open schools."

The individuation ideology has not as yet shaped a style of action which might be considered as that in which this ideology realizes itself in a manner accepted by most of its votaries. There exist several patterns of action called "open school," but it has not as yet been decided which one suits best the criteria of the individuation ideology. Nevertheless a number of characteristic traits which are typical of the style of action of these schools may be mentioned; this style, then, prescribes a new kind of architecture.

The open school, whose founders interpret the individuation ideology most radically, apprehend school as a framework offering the pupil opportunities for action in accord with his initiatives and his interest. Within this framework the pupil is meant to be the one that decides on his place in the school space and on his activity in time; i.e., he is free to move as he wishes, in the expanse which school places at his disposal. He is the one to decide when and where he does whatever he chooses to do. The principles are applied when the regime of lessons subject to bell-ringing is abolished, as is the regime of curricula prescriptives for both teacher and pupil; and when the regime of ordering pupils into classes, which are isolated from one another, vanishes, etc., etc., etc. The open (radical) school contains centres of activity - not classes. The pupil moves in it from one centre to another as he chooses. These centres are not necessarily separated by walls. Within this expanse a child from the 2nd grade may join one from the 5th, if both find it desirable. This is not a "school desk" school, but rather one of bookshelves, carpenter benches, T.V. corners, computer terminals, paint and paper corners, etc., etc. In brief: This is an expanse broadcasting activity, triggering stimuli, providing, at the same time, the means to realize them. The buildings of such schools, to the extent that they have been erected according to prior planning, based on guiding ideas, are attempts to surround the expanse of pupil activities with appropriate exterior and interior architecture.

To sum up the matter: Three main approaches are nowadays current in school architecture. They derive from the three educational ideologies which are current in contemporary pedagogy. Essentially these are the architectures of: 1. Functional buildings meant to house schools whose operation resembles industrial production;

2. The architecture of buildings meant to inspire their pupils and their guardians with a sense of ponderation, teaching them that education derives its power from the past;

3. Open space architecture inviting pupils to be the planners of their own time and the ones to decide, by themselves, what their deeds are to be.